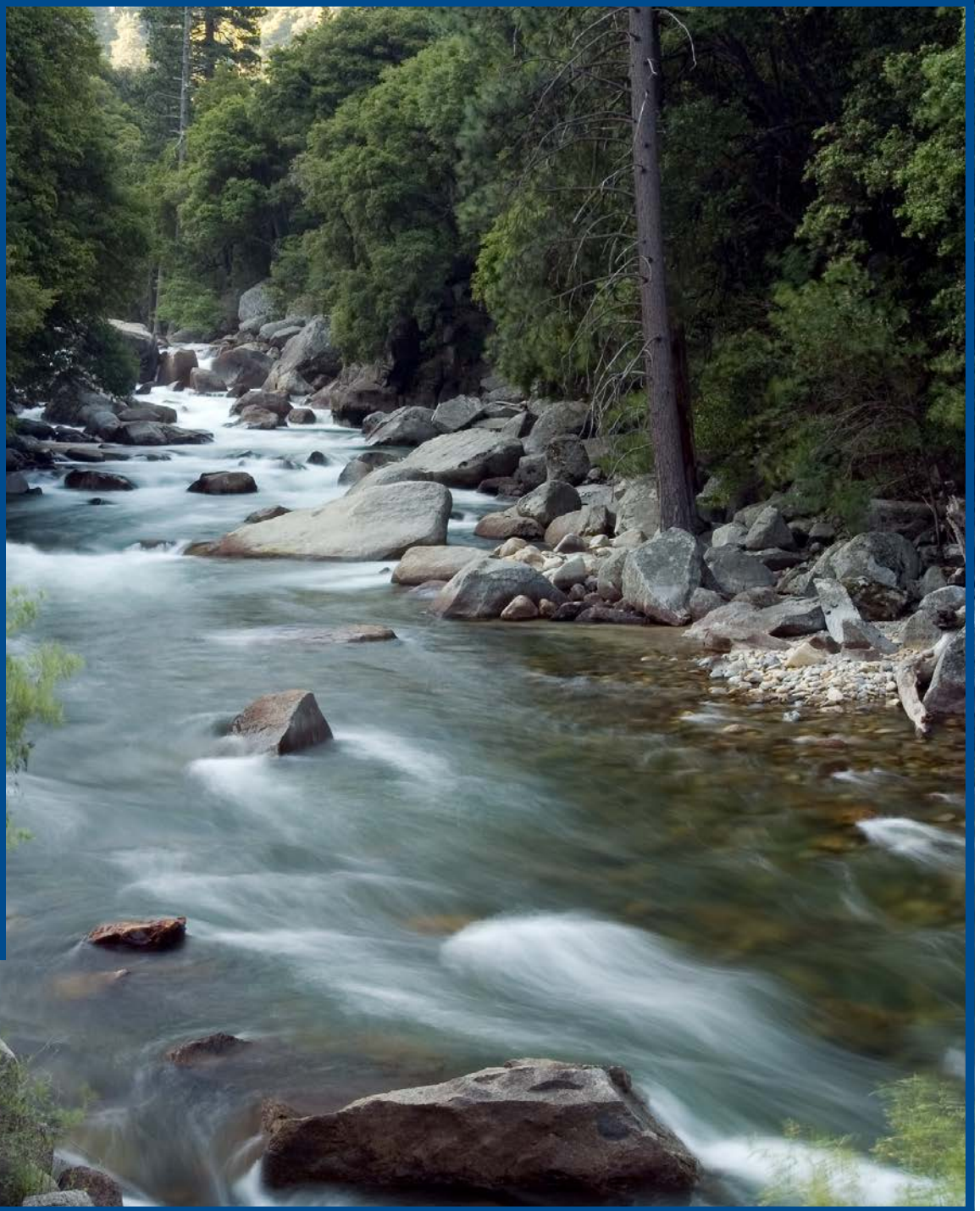


6

Science Standard
6.2.b.



The Dynamic Nature of Rivers

California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

The Education and the Environment Initiative Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency
California Natural Resources Agency
California State Board of Education
California Department of Education
Department of Resources Recycling and Recovery (CalRecycle)

Key Partners:

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Office of Education and the Environment

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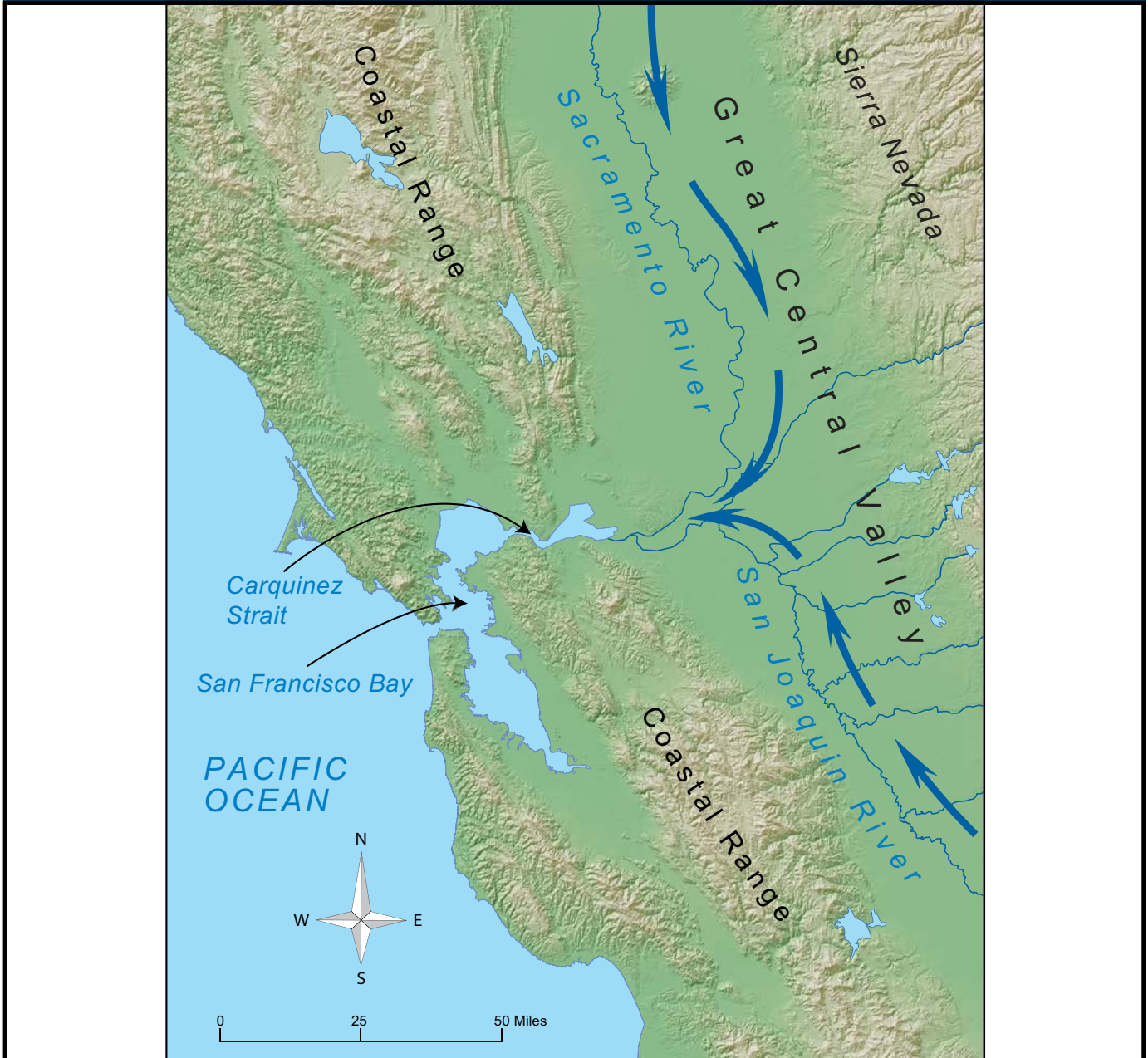
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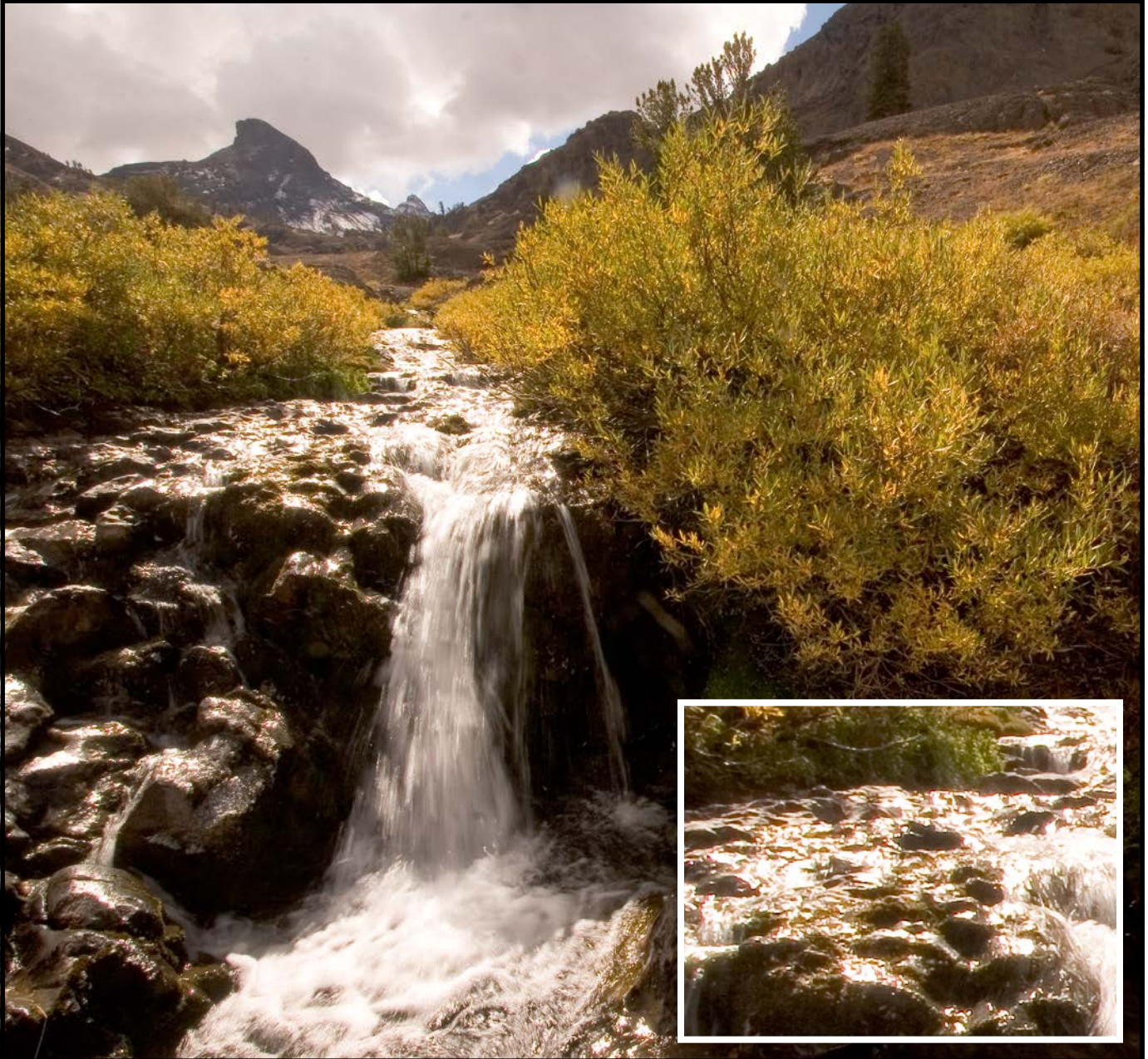
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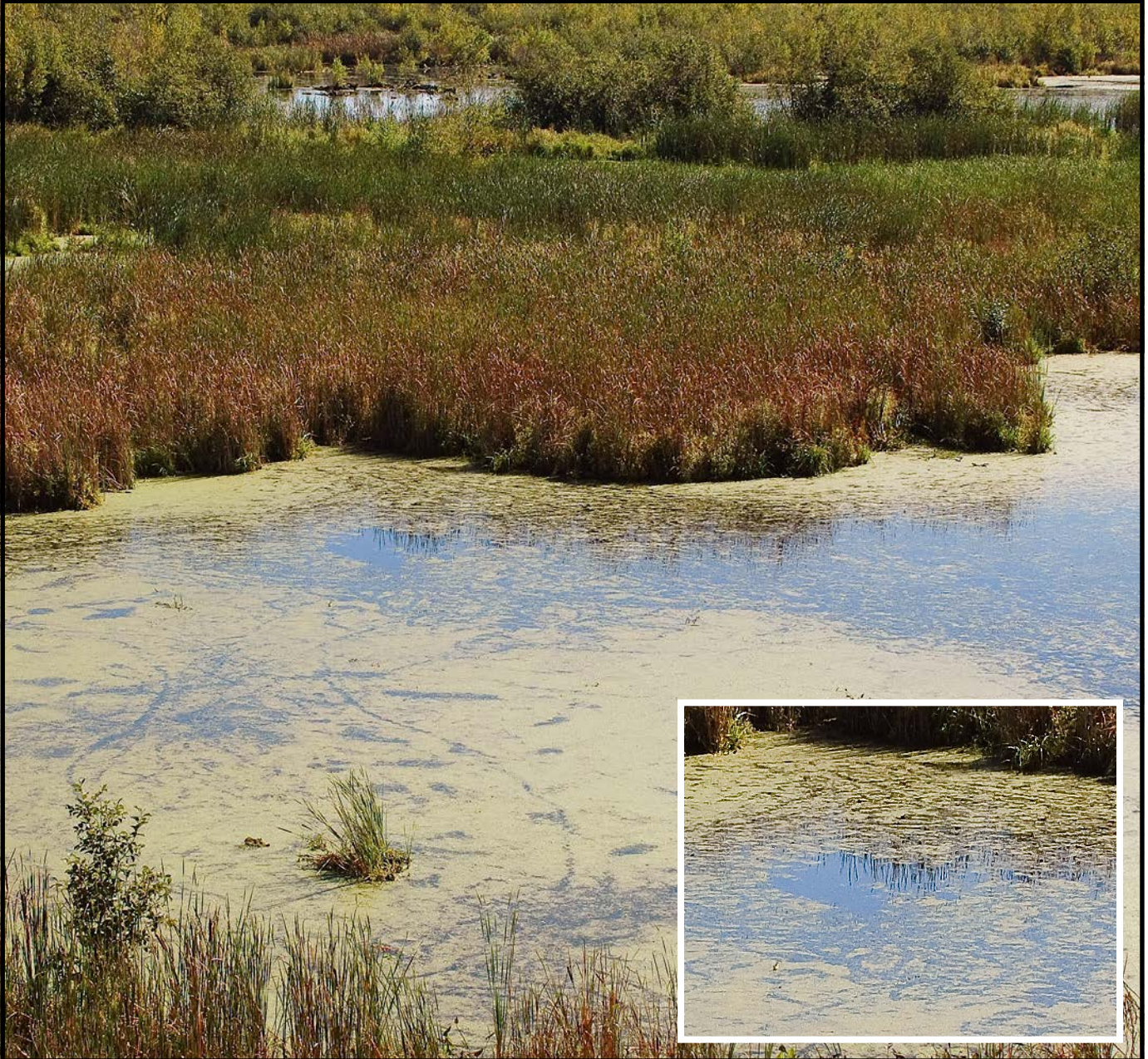
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VA #2 Mountain Stream



VA #3 Delta Slough



VA #4 The Benefits of Rivers: Irrigation



VA #5 The Benefits of Rivers: Recreation



VA #6 The Benefits of Rivers: Soil Renewal



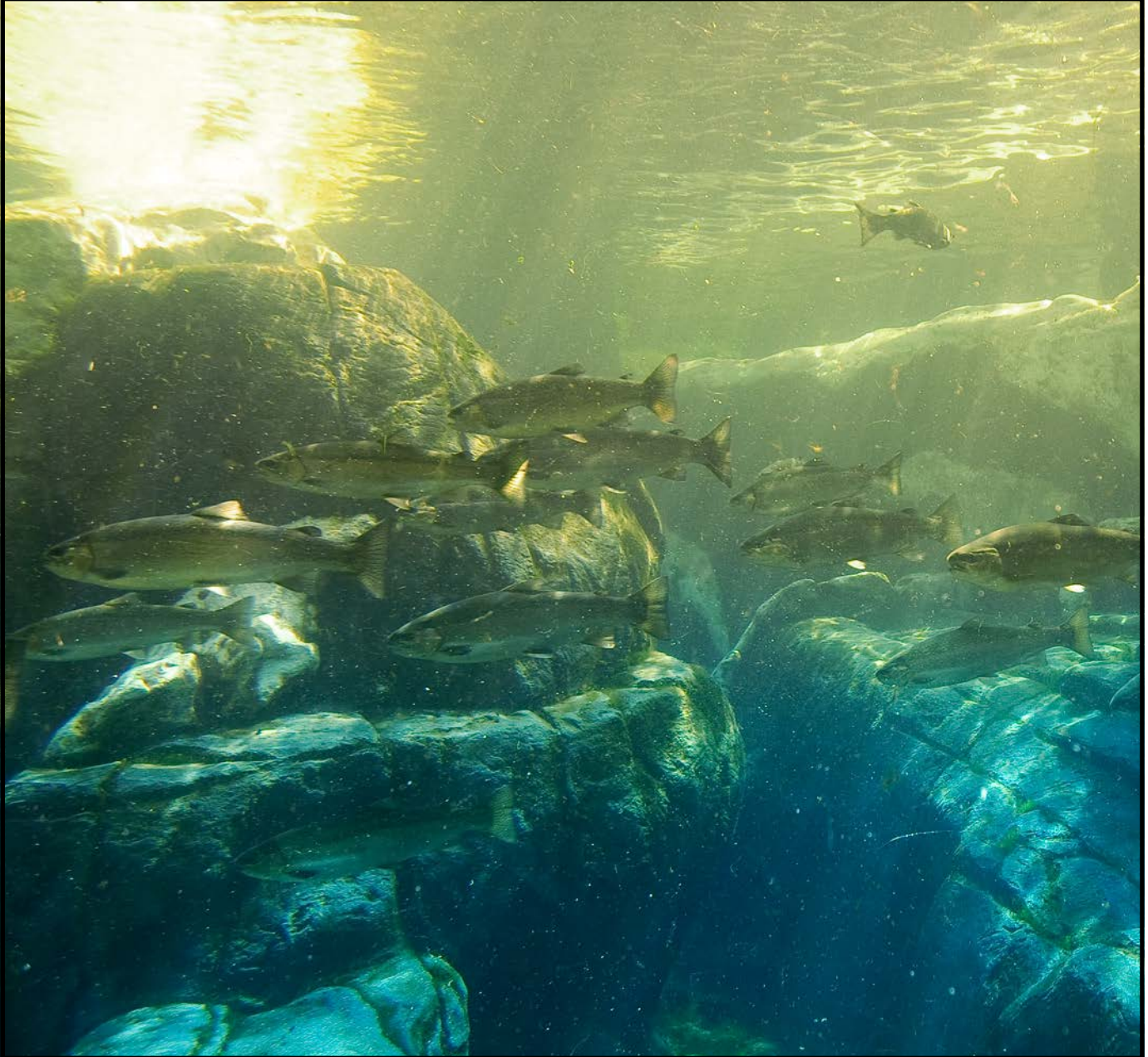
VA #7 The Benefits of Rivers: Power Generation



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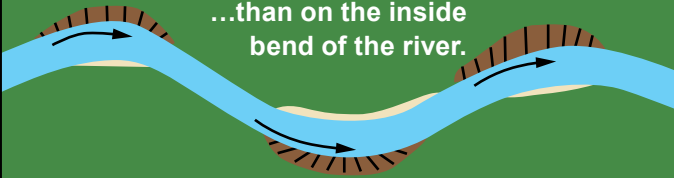
VA #11 Meandering River



VA #12 Erosion and Deposition

The water in a river channel flows faster round the outside bend of a river...

...than on the inside bend of the river.

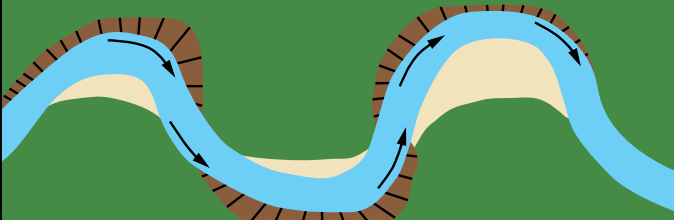


Faster flowing water on the outside bend erodes the river bank.

Slow moving water deposits sand and mud on the inside bend.

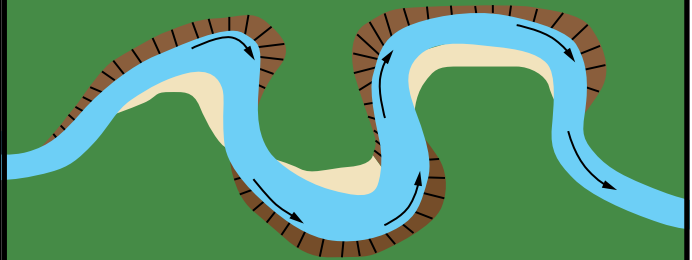


Where the river bank is being eroded, a steep river cliff is created.

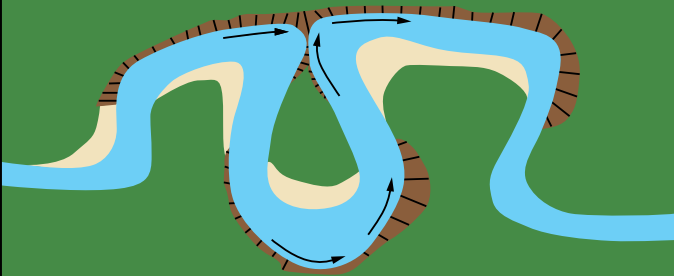


The deposited sand and mud creates a river beach or slip-off slope.

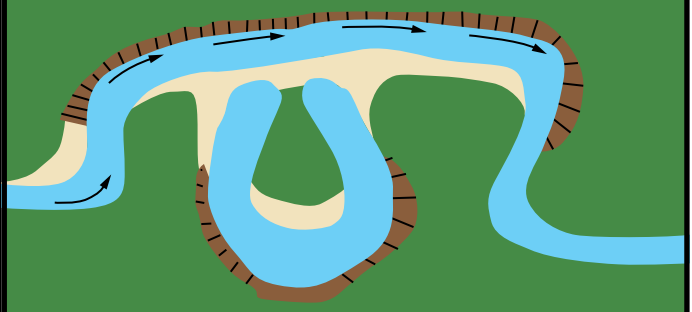
The river continues to erode and deposit material. Eventually the curves of the river channel become very close.



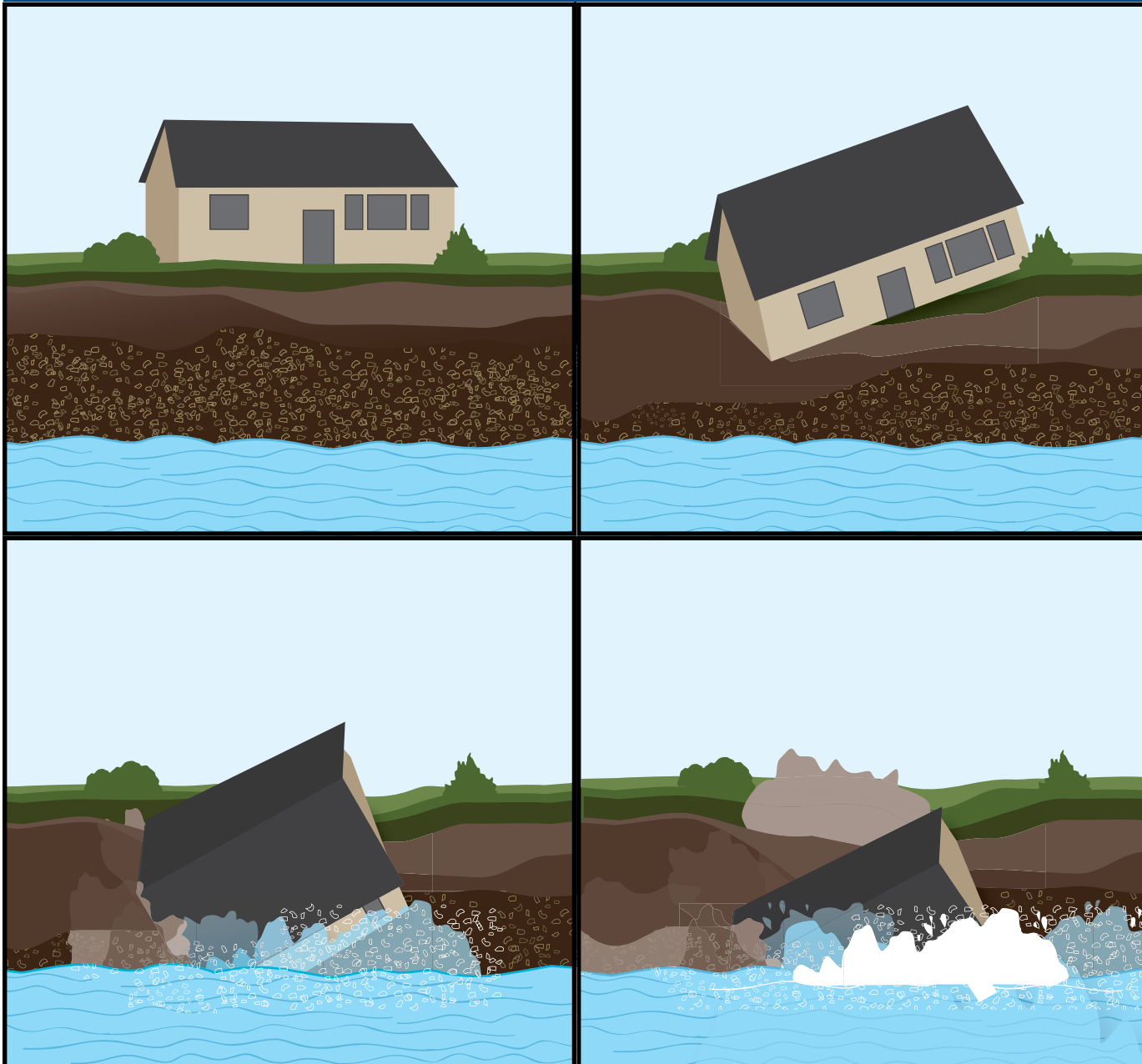
The river breaks through this thin barrier. The water no longer flows round the meander but straight along the new channel.



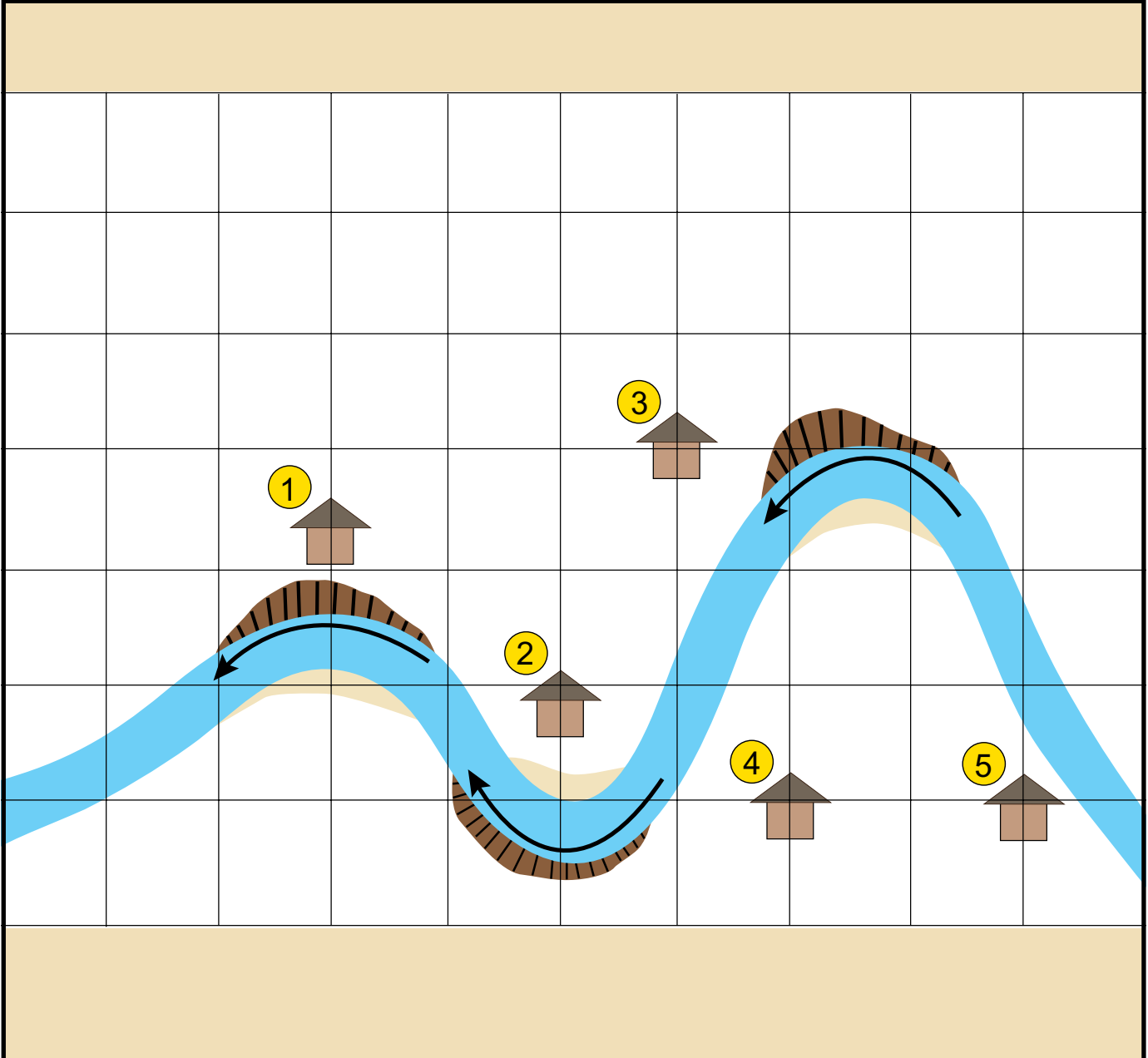
The old course of the river channel becomes an oxbow lake. This lake soon dries out.



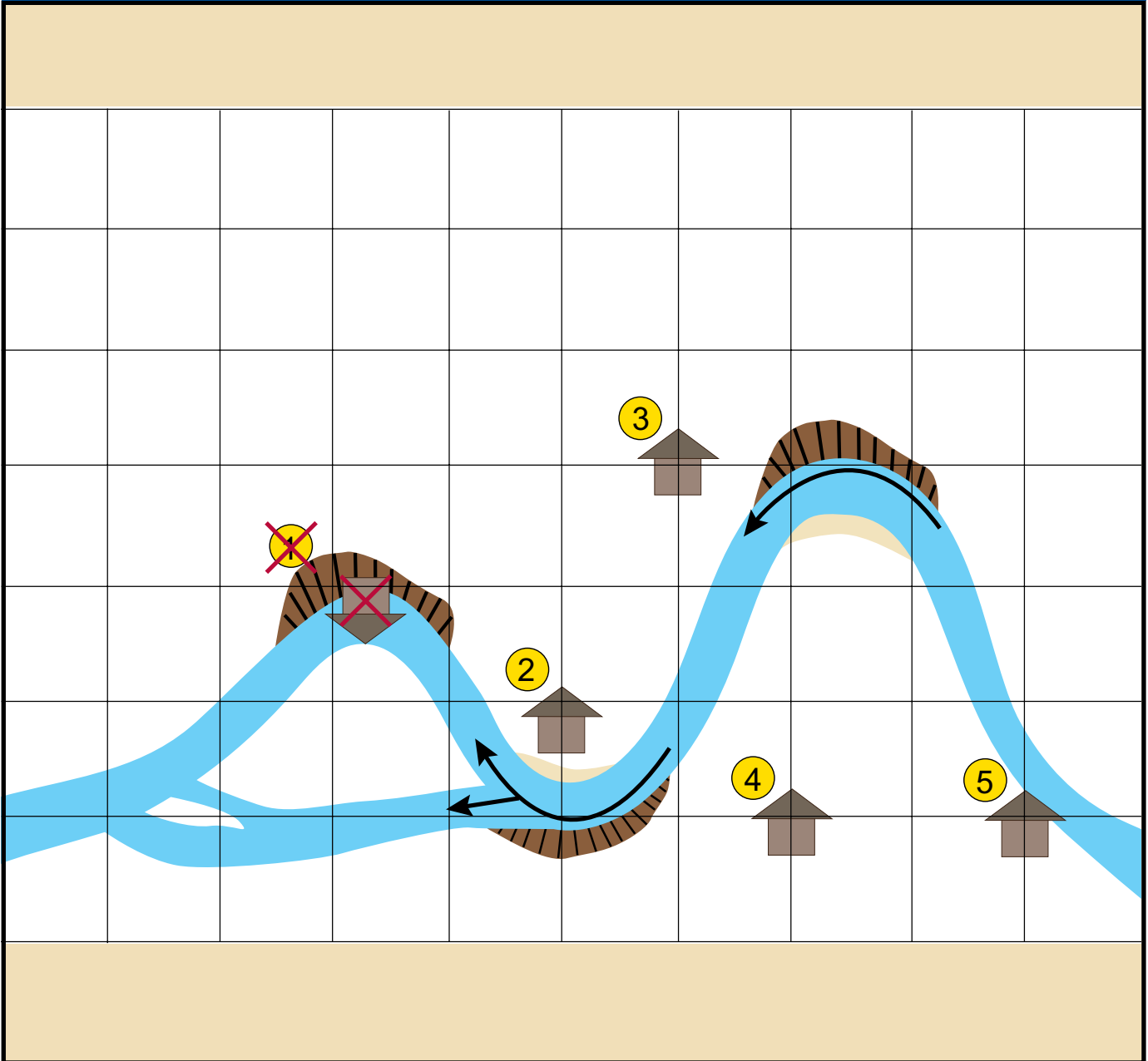
VA #13 House Falling into a River



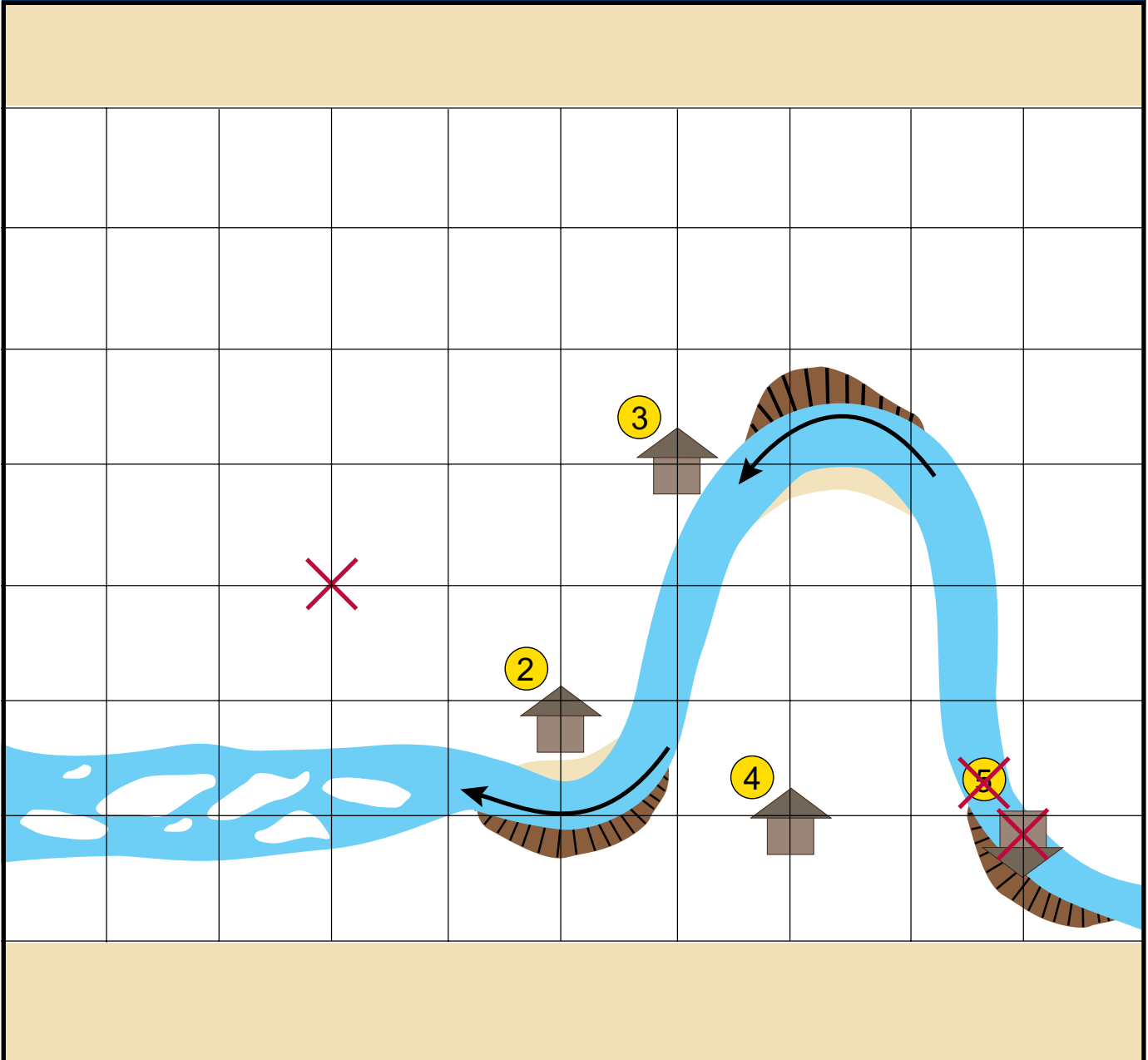
VA #14 Houses on the Floodplain: 1960



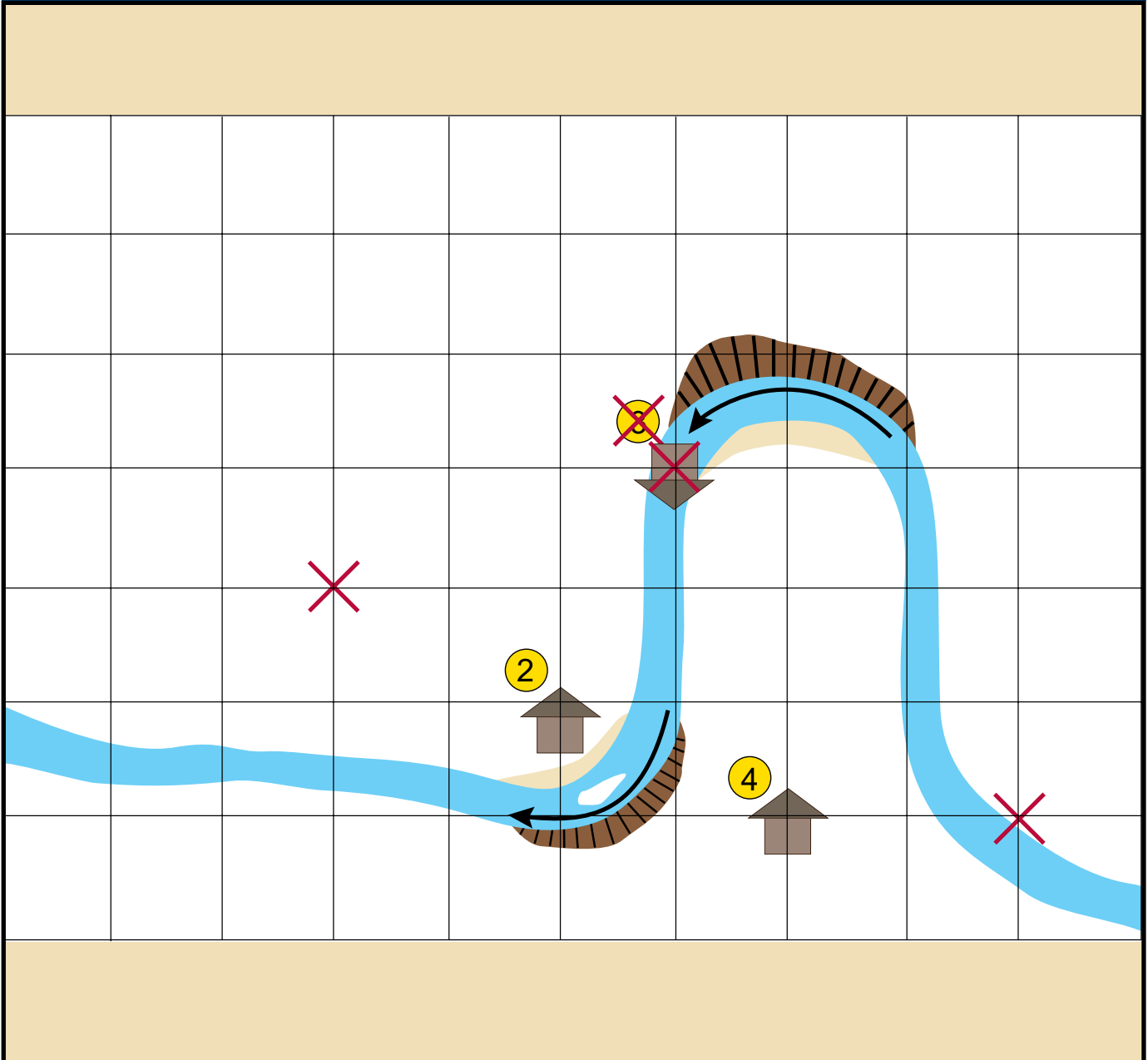
VA #15 Houses on the Floodplain: 1965



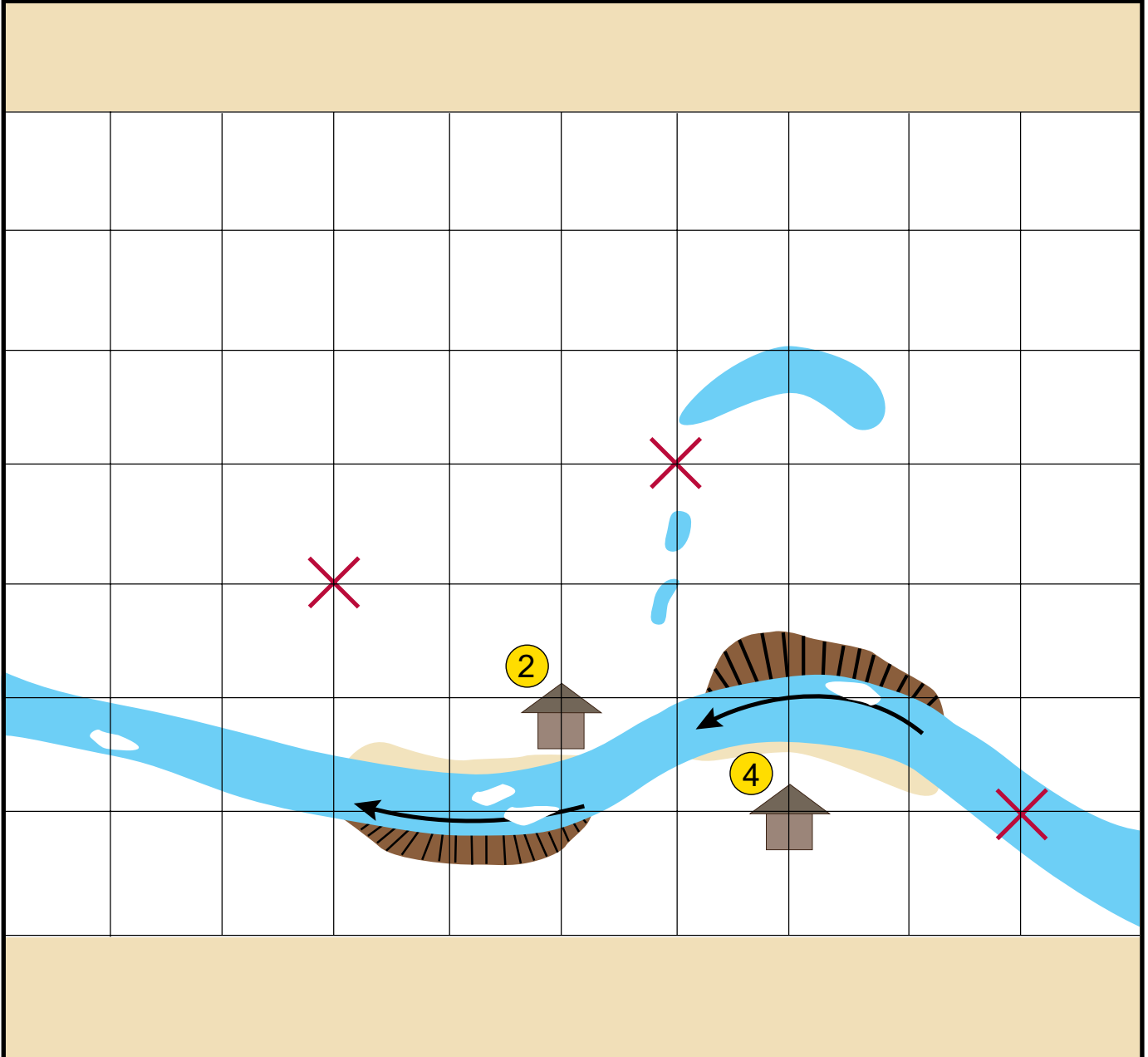
VA #16 Houses on the Floodplain: 1970



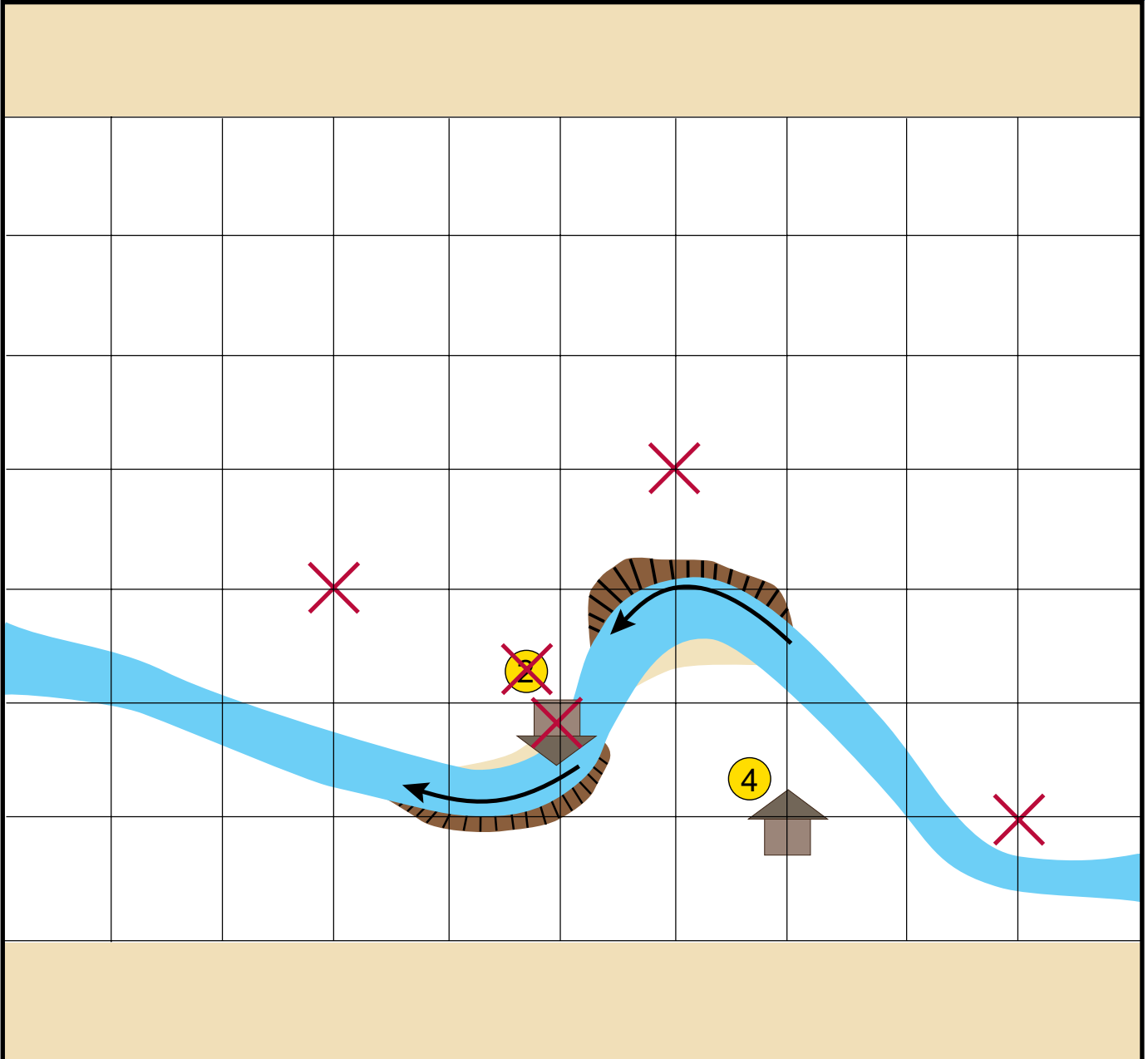
VA #17 Houses on the Floodplain: 1975



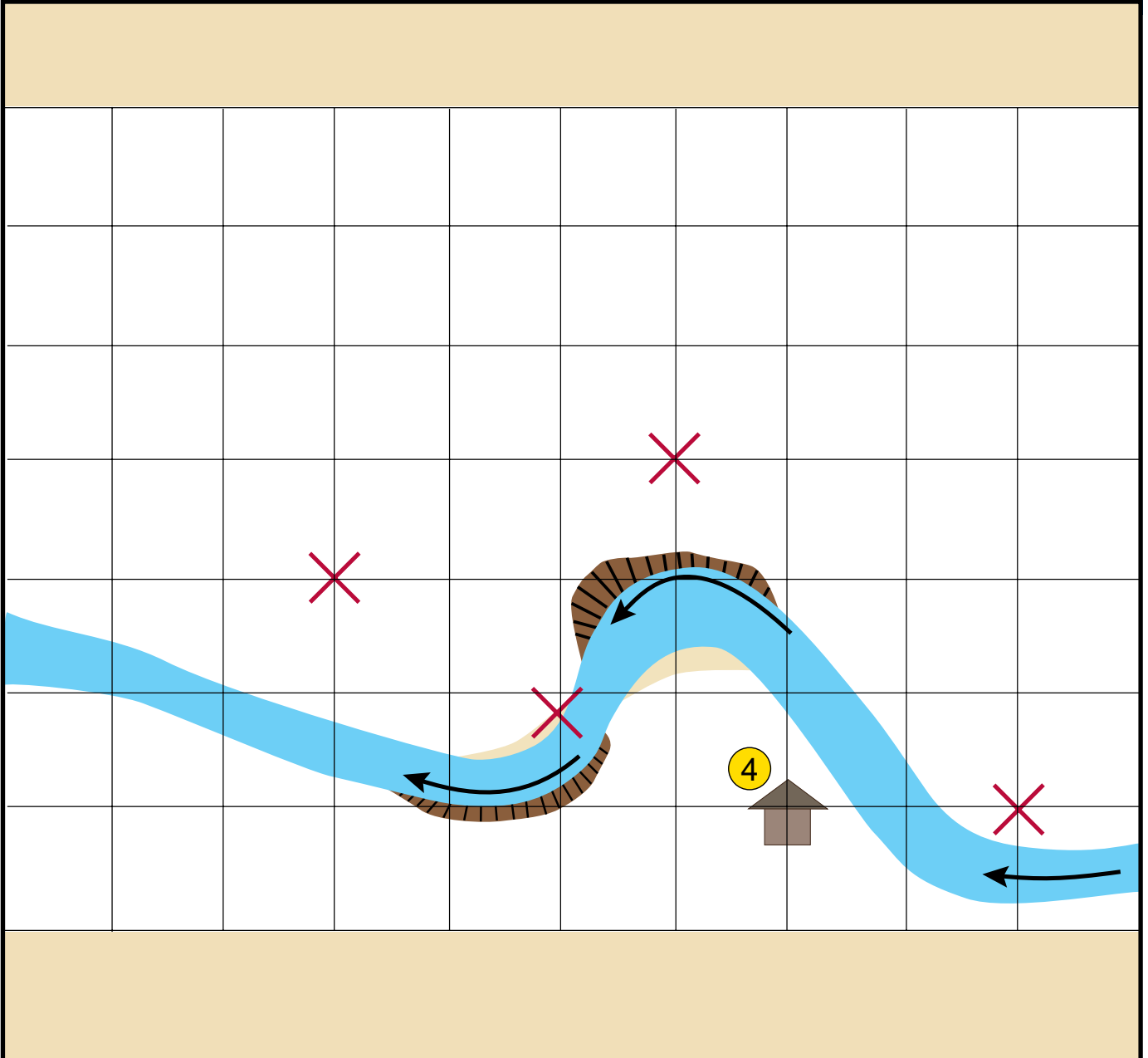
VA #18 Houses on the Floodplain: 1980



VA #19 Houses on the Floodplain: 1985



VA #20 Houses on the Floodplain: 1990



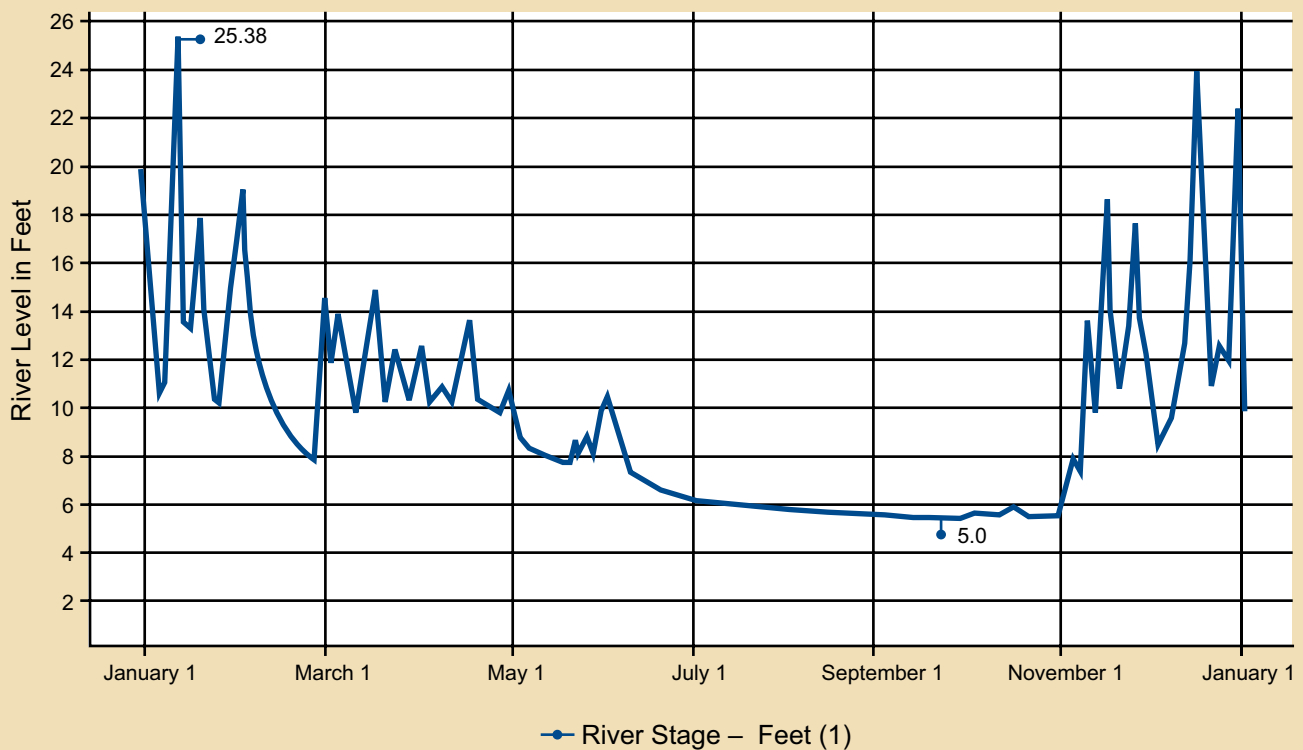
VA #21 Flow in Two California Rivers: Smith Data

Smith River near Crescent City

Data from January 1, 2006, through January 1, 2007. Duration: 366 days

Max. of period: (Jan. 11, 2006, 00:45, 25.38 feet)

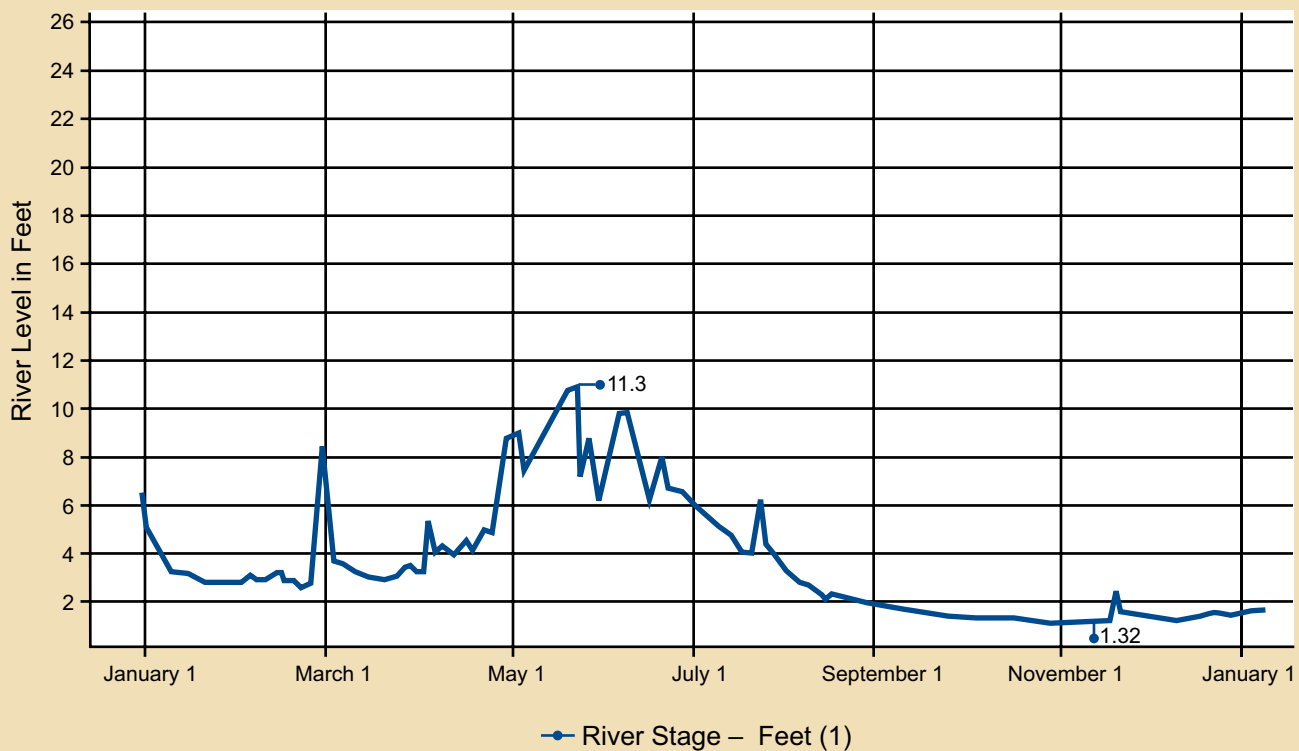
Min. of period: (Sept. 17, 2006, 16:00, 5.0 feet)



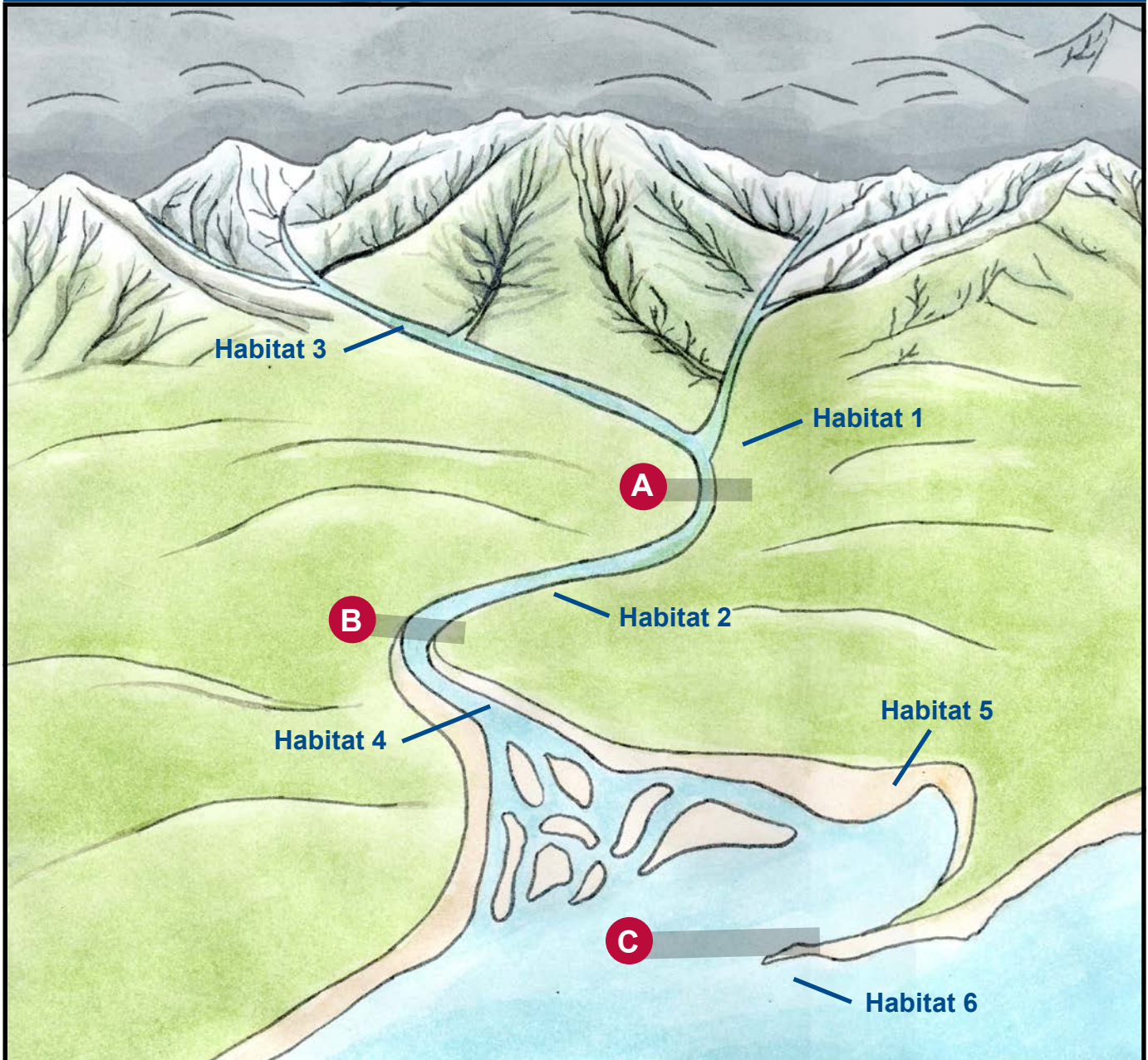
VA #22 Flow in Two California Rivers: Merced Data

Merced River at Pohono Bridge

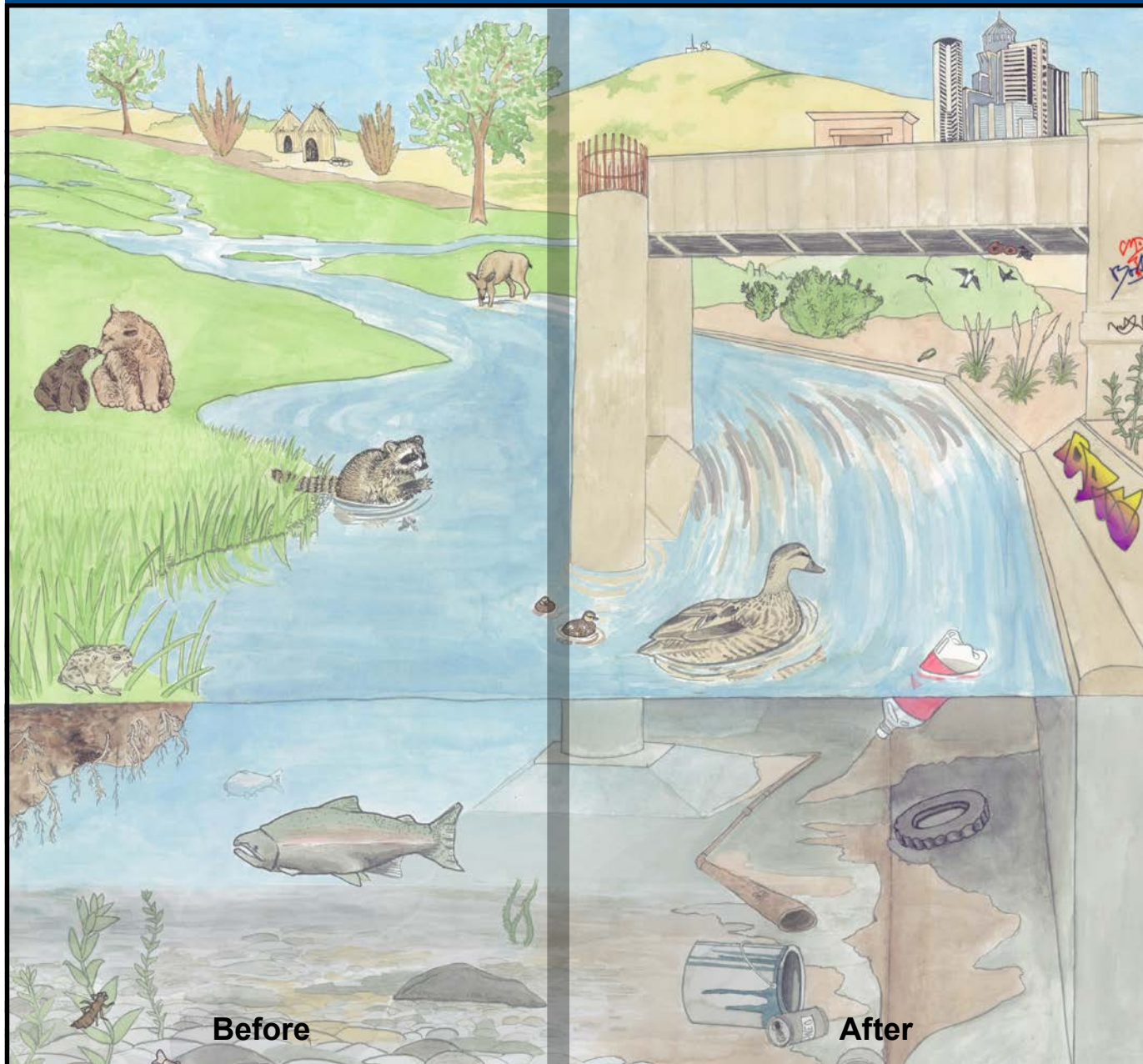
Data from January 1, 2006, through January 1, 2007. Duration: 366 days
Max. of period: (May 17, 2006, 12:16, 11.3 feet) Min. of period: (Nov. 7, 2006, 8:15, 1.32 feet)



VA #23 River Map



VA #24 The Los Angeles River Before and After





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